



# Texas Buffers for Wildlife

United States  
Department of  
Agriculture

Natural Resources  
Conservation Service

Temple, Texas

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## Filter Strips

### Conservation Buffer Job Sheet 393

#### DEFINITION

A filter strip is an area of grass or other permanent vegetation used to reduce sediment, organics, nutrients, pesticides, and other contaminants from runoff and to maintain or improve water quality.



#### PURPOSE

This supplement to the national job sheet is designed to assist with integrating wildlife habitat prescriptions into planning filter strips. A filter strip can provide wildlife habitat as it serves to slow the velocity of water coming from an agricultural field, allowing the settling out of suspended soil particles. It also increases infiltration of the runoff and the uptake of soluble pollutants by plants. Filter strips can provide important habitat between crop fields or other contaminant sources and waterbodies such as streams, ponds, wetlands, and field ditches.



The wildlife habitat components that can be provided by a filter strip include nesting cover, feeding cover, escape cover, travel corridors between habitats, and protection of aquatic habitat. Although species such as bobwhite quail, ring-necked pheasant and blue birds are typically considered users of grassy shrubby filter strips, they also provide food and cover for many other species of wildlife native to Texas and migratory wildlife passing through.

White-tailed deer, wild turkeys, and great horned owls occasionally use this habitat provided by a common agricultural conservation practice.

#### SITE CONSIDERATIONS

- Landowner objectives (specific types of wildlife or wildlife habitat integrated into non-wildlife purpose)
- Source of contaminants (sediment, nutrients, pesticides, etc.)
- Adjacent landuse (type of crop, irrigated or non-irrigated, range, forest, grazed, etc)
- Soil characteristics ( texture, depth, moisture, etc)
- Annual rainfall
- Plant hardiness zones
- Connection to other wildlife habitats



## DESIGN CONSIDERATIONS

Alternatives can vary from simple, when creating habitat where wildlife is not the landowner's primary objective, to complex when managing filter strips for specific wildlife such as bobwhite quail or migratory songbirds. The habitat contribution of a filter strip is determined by the vegetation selected, the width of the strip, and the maintenance/management (light disking, prescribed burning, prescribed grazing, etc.) techniques selected. In areas where a drainage district or local government requires access for maintenance, a filter strip can substitute for a forest/woody riparian buffer by placing the herbaceous vegetation along the bank for access and adding woody vegetation to the outside.

### Filter Strip Width

Additional width is important to minimize the destruction of nests by predators and to provide habitat that is not disturbed by turning equipment during the primary nesting and brood rearing season.

	Minimum	Optimum
Movement corridor	20 feet	50 feet or greater
Nesting or escape cover	40 feet	100 feet or greater

### Vegetation

See the Texas supplement to conservation practice standard 645, Upland Wildlife Management and Plant Materials Fact Sheets for conservation practice standards 393, Filter Strip, 391, Riparian Forest Buffer, and 580, Streambank and Shoreline Protection to select grasses, forbs, legumes, and shrubs that are beneficial to wildlife.

#### *Simple Option*

Plant a native clump grass and legume combination that is suited to the site conditions. On areas subject to erosion, a dead litter cover crop should be sown to protect the soil until the vegetation becomes established.

or

Allow filter strip to grow up in native plants, if suitable species for targeted wildlife are available in the seed bank. When using this option, specific vegetation management will have to be planned in order to comply with the standard. On areas subject to erosion, a dead litter cover crop should be sown to protect the soil until the vegetation becomes established.

#### *Complex Option*

Plant a mixture of native clump grasses, forbs, and legumes that are suited to the site conditions. On areas subject to erosion, a dead litter cover crop should be sown to protect the soil until the vegetation becomes established. Depending on the wildlife objective, small group plantings of native shrubs, suited to the site, can add woody cover and/or food to filter

strips between crop fields and the waterbody being protected. Leaving several rows of standing crops adjacent to the filter strip will enhance fall and winter food.

or

Allow filter strip to grow up in native plants, if suitable species for targeted wildlife are available in the seed bank. When using this option, specific vegetation management will have to be planned in order to comply with the standard. On areas subject to erosion, a dead litter cover crop should be sown to protect the soil until the vegetation becomes established. As a supplement to natural establishment, develop plots, within the filter strip, planted to a mixture of native clump grasses, forbs, and legumes. Native shrubs can be established by planting or protecting small groups that become established naturally.

Establishment specifications are as follows:

1. Seedbed preparation and seeding operations for grasses, legumes, and forbs may be accomplished by conventional (plowing, disking, chiseling) and/or no-till methods. Seedbed preparation for shrubs may be accomplished by disking, mowing or herbicide treatment. Planting of shrubs may be accomplished by machine or hand planting. Erosion control during the establishment period must be considered with any seeding operation.
2. Fertilizer and lime will be applied at recommended rates according to soil test results. All materials shall conform to established state specifications for agricultural applications. Nitrogen is usually not recommended during the first year of establishment of native grasses.
3. Filter strips established with natural regeneration may be sown to a dead litter cover crop to protect soil as native vegetation becomes established on the fallowed area.
4. Certain (pesticides) herbicides and insecticides may be specified for application as needed to facilitate grass and legume establishment. When these pesticides are applied, the participant is responsible for assuring that all application rates and methods are consistent with label directions and that all required record keeping is maintained.

### **Maintenance/Management**

In order to maximize wildlife benefits over the life of the practice, periodic management practices may need to be implemented. This can include cultural practices such as light disking, prescribed burning, mowing, re-seeding, prescribed grazing, and spot herbicide treatment. Management practices and implementation timing are generally dictated by local conditions, vegetation structure, habitat conditions desired and insuring the primary purpose of the filter strip.

Maintenance/Management specifications are as follows:

1. To avoid interfering with nesting activities, light disking and/or mowing should not be performed between March 15 and July 15. Delaying mowing and/or light disking until after August 15 is recommended to further enhance wildlife habitat.
2. Mowing and/or light disking alone or in combination should be performed on no more than 1/3 of the filter strip in any year. When the disked areas are rotated, the previously disked strips should have sufficient vegetation to control erosion.
3. Mowing height should be no lower than 8 inches.

4. Disked areas shall have a minimum of 30 percent residue remaining on the soil after disking operations are complete.
5. Prescribed burning is a management option and should be limited to 1/3 of the filter strip in any year. The participant will be responsible for obtaining a Prescribed Burn Plan and adhering to all local and state laws applicable to open burning.
6. Prescribed grazing is a management option and should be accompanied by a grazing management plan that provides the timing, duration and intensity necessary to promote the vegetation composition and structure most beneficial to wildlife and insures the primary purpose of the filter strip.

## SPECIFICATIONS

### Filter Strip- Specification Sheet

Landowner \_\_\_\_\_ Field Number \_\_\_\_\_

<b>Purpose (check all that apply)</b>	
<input type="checkbox"/> Wildlife	<input type="checkbox"/> Collect sediment
<input type="checkbox"/> Pollution filtration	<input type="checkbox"/> Increase infiltration

<b>Filter strip layout</b> (for exact location see job sketch)	<b>Filter strip 1</b>	<b>Filter strip 2</b>	<b>Filter strip 3</b>
Strip width (ft)			
Strip length (ft)			
Area (ac)			
Slope (%)			
Species #1			
Species #2			
Species #3			
Seeding rate (PLS) (lb/acre)			
Seedling spacing (Shrub Planting)			
Lime (tons/acre)			
N (lb/acre)			
P2 O5 (lb/acre)			
K2O (lb/acre)			

### Site preparation

Prepare firm seedbed. Apply lime and fertilizer according to recommendations.

### Planting Methods

Drill grass and legume seed \_\_\_\_\_ inches deep uniformly over area. Establish stand of vegetation according to recommended seeding rate. If necessary, mulch newly seeded area with \_\_\_\_\_ tons per acre of mulch material. May seed small grain as a companion crop at the rate of \_\_\_\_\_ pounds per acre.

### Maintenance

Maintain original width and depth of the grass area. Harvest, mow, reseed, and fertilize to maintain plant density, vigorous plant growth, and to remove plant nutrients. Inspect after major storms, remove trapped sediment, and repair any eroding areas. Shut off pesticide sprayers when turning on a filter strip.

## Filter Strip- Job Sketch

If needed, an aerial view of the filter strip layout can be shown below. Other relevant information, such as complementary practices, and adjacent field or tract conditions, the positioning of multiple or single row sets across a field or tract, and additional specifications may be included.

Scale 1"= \_\_\_\_\_ ft. (NA indicates sketch not to scale: grid size= 1/2" by 1/2")


<b>Additional Specifications and Notes:</b>

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